

WHAT IS CLAIMED IS:

1. A magnetic recording medium comprising a non-magnetic substrate and at least a soft magnetic layer, a seed layer and a recording layer having a multilayer film structure comprising alternately laminated Co and Pd which are successively laminated on the substrate, where the recording layer contains B in an amount satisfying  $0.07 \leq \text{concentration of B atom} / (\text{concentration of Pd atom} + \text{concentration of B atom}) \leq 0.15$ , the recording layer comprises an aggregate of fcc crystal grains, and the average value of (111) interplanar spacing of the fcc crystals is not more than 2.25 Å.
2. A magnetic recording medium according to claim 1, wherein the seed layer comprises Pd and B.
3. A method for producing the magnetic recording medium of claim 1, wherein the seed layer is formed by sputtering under application of RF bias.
4. A method for producing the magnetic recording medium of claim 2, wherein the seed layer is formed by sputtering under application of RF bias.
5. A method for producing the magnetic recording medium of claim 1, wherein Kr gas is used for the formation of the seed layer and the recording layer by sputtering.
6. A method for producing the magnetic recording medium of claim 2, wherein Kr gas is used for the formation of the seed layer and the recording layer by

sputtering.

7. A magnetic storage device having the magnetic recording medium of claim 1, a magnetic head for recording information in the magnetic recording medium or reproducing the recorded information, a driving means for driving the magnetic recording medium in respect to the magnetic head, and a recording and reproducing signal processing means for signal inputting with the magnetic head and reproduction of the output signal from the magnetic head.

8. A magnetic storage device having the magnetic recording medium of claim 2, a magnetic head for recording information in the magnetic recording medium or reproducing the recorded information, a driving means for driving the magnetic recording medium in respect to the magnetic head, and a recording and reproducing signal processing means for signal inputting with the magnetic head and reproduction of the output signal from the magnetic head.